ecology and environment, inc.

SITE-SPECIFIC HEALTH AND SAFETY PLAN

Project: Jefferson Processing

Project No.: KJ5104

TDD/PAN No.: S05-9903-008/ 9M0801SIXX

Project Location: County Road 74 (Goulds Road), Cross Creek Township, Jefferson County, Ohio 43952

Proposed Date of Field Activities: August 11, 1999

Project Director: On-Scene Coordinator Karla Auker

Project Manager: Anne Marie Mayer

Prepared by: Anne Marie Mayer Date Prepared: 8-10.99

Approved by: Anne a. B Date Approved: 8-10.99

1. INTRODUCTION

1.1 POLICY

It is E & E's policy to ensure the health and safety of its employees, the public, and the environment during the performance of work it conducts. This site-specific health and safety plan (SHASP) establishes the procedures and requirements to ensure the health and safety of E & E employees for the above-named project. E & E's overall safety and health program is described in *Corporate Health and Safety Program for Toxic and Hazardous Substances* (CHSP). After reading this plan, applicable E & E employees shall read and sign E & E's Site-Specific Health and Safety Plan Acceptance form.

This SHASP has been developed for the sole use of E & E employees and is not intended for use by firms not participating in E & E's training and health and safety programs. Subcontractors are responsible for developing and providing their own safety plans.

This SHASP has been prepared to meet the following applicable regulatory requirements and guidance:

Applicable Regulation/Guidance
29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)
Other:

1.2 SCOPE OF WORK

Description of Work: Site documentation (written, photographic, video), sampling of visibly contaminated soils, sampling of wastes on site, air monitoring.

Equipment/Supplies: Attachment 1 contains a checklist of equipment and supplies that will be needed for this work.

The following is a description of each numbered task:

Task Number	Task Description
1	Mobilization to and demobilization from site
2	Site reconnaissance including photographic, video and written documentation
3	Sampling of wastes and contaminated soils, PCB soil ~~sample~~ + wipe samples
4	Air monitoring
5	Sampling + air monitoring of miscellaneous drums + contain

1.3 SITE DESCRIPTION

Site Map: A site map or sketch is attached at the end of this plan.

Site History/Description (see project work plan for detailed description): In 1958, the facility was constructed. Satralloy, Inc. owned and operated a ferrochrome production facility on 36 acres of the property. The interiors of the ferrochrome production buildings have been

extensively dismantled. Production of ferroalloys ceased in 1982, after which chrome alloy was reclaimed from slags stored in piles on site. A PCB Compliance Inspection was conducted in 1988 on the facility where several violations were cited and led to a Consent Agreement and Final Orders issued to Satralloy, Inc., in 1990. In 1994, Ms. Catherine Glorious purchased the property at a Sheriff's auction to donate it to the local Catholic Church. The facility in 1997 was unoccupied and on-site slag was being reclaimed for resale. According to Glorious' attorney, several transformers and other pieces of equipment were removed from the site by vandals.

Is the site currently in operation? ☐ Yes ☒ No (however, salvage operations have been conducted at the site by the owner)

Locations of Contaminants/Wastes: Several PCB transformers were observed in a 1997 inspection to be located on the first and third floors of the north mill building, the pumphouse and the fourth floor of the south mill building. A seventh transformer was reportedly located on the first floor of the south mill also. An eighth transformer reportedly owned by the local electric company was also observed in the electrical switchyard adjacent to the north mill building. Various combustible materials were also observed around the property during the 1997 inspection.

Types and Characteristics of Contaminants/Wastes:

☒ Liquid	☒ Solid	☐ Sludge	☐ Gas/Vapor
☐ Flammable/Ignitable	☐ Volatile	☐ Corrosive	☐ Acutely Toxic
☐ Explosive	☐ Reactive	☒ Carcinogenic	☐ Radioactive
☐ Medical/Pathogenic	Other: _____		

2. ORGANIZATION AND RESPONSIBILITIES

E & E team personnel shall have on-site responsibilities as described in E & E's standard operating procedure (SOP) for Site Entry Procedures (GENTECH 2.2) The project team, including qualified alternates, is identified below.

Name	Site Role/Responsibility
Anne Marie Mayer	Project/Task Manager
Justin Bowerman	Site Safety Officer

3. TRAINING

Prior to work, E & E team personnel shall have received training as indicated below. As applicable, personnel shall have read the project work plan, sampling and analysis plan, and/or quality assurance project plan prior to project work.

Training	Required
40-Hour OSHA HAZWOPER Initial Training and Annual Refresher (29 CFR 1910.120)	X
Annual First Aid/CPR	X
Hazard Communication (29 CFR 1910.1200)	X
40-Hour Radiation Protection Procedures and Investigative Methods	
8-Hour General Radiation Health and Safety	
Radiation Refresher	
DOT and Biannual Refresher	
Other:	

4. MEDICAL SURVEILLANCE

4.1 MEDICAL SURVEILLANCE PROGRAM

E & E field personnel shall actively participate in E & E's medical surveillance program as described in the CHSP and shall have received, within the past year, an appropriate physical examination and health rating.

E & E's health and safety record (HSR) form will be maintained on site by each E & E employee for the duration of his or her work. E & E employees should inform the site safety officer (SSO) of any allergies, medical conditions, or similar situations that are relevant to the safe conduct of the work to which this SHASP applies.

Is there a concern for radiation at the site? ☐ Yes X No
If no, go to 5.1.

4.2 RADIATION EXPOSURE

4.2.1 External Dosimetry

Thermoluminescent Dosimeter (TLD) Badges: TLD badges are required to be worn by all E & E field personnel on all E & E sites.

Pocket Dosimeters: N/A

Other: N/A

4.2.2 Internal Dosimetry

☐ Whole body count ☐ Bioassay ☐ Other

Requirements: N/A

4.2.3 Radiation Dose

Dose Limits: E & E's radiation dose limits are stated in the CHSP. Implementation of these dose limits may be designated on a site-specific basis.

Site-Specific Dose Limits: N/A

ALARA Policy: Radiation doses to E & E personnel shall be maintained as low as reasonably achievable (ALARA), taking into account the work objective, state of technology available, economics of improvements in dose reduction with respect to overall health and safety, and other societal and socioeconomic considerations.

5. SITE CONTROL

5.1 SITE LAYOUT AND WORK ZONES

Site Work Zones: Refer to the map or site sketch, attached at the end of this plan, for designated work zones.

Site Access Requirements and Special Considerations: A security guard is currently employed at the facility. Prior to arriving, OSC will make entry arrangements with the property owner.

Illumination Requirements: Work will be done in daylight hours.

Sanitary Facilities (e.g., toilet, shower, potable water): If possible, on-site facilities will be used or sanitary facilities will be used at a local fast food restaurant/diner/gas station. Drinking water will be brought on site by START.

On-Site Communications: person to person, visual contact

Other Site-Control Requirements: N/A

5.2 SAFE WORK PRACTICES

Daily Safety Meeting: A daily safety meeting will be conducted for all E & E personnel and documented on the Daily Safety Meeting Record form or in the field logbook. The information and data obtained from applicable site characterization and analysis will be addressed in the safety meetings and also used to update this SHASP, as necessary.

Work Limitations: Work shall be limited to a maximum of 12 hours per day. If 12 consecutive days are worked, at least one day off shall be provided before work is resumed. Work will be conducted in daylight hours unless prior approval is obtained and the illumination requirements in 29 CFR 1910.120(m) are satisfied.

Weather Limitations: Work shall not be conducted during electrical storms. Work conducted in other inclement weather (e.g., rain, snow) will be approved by project management and the regional safety coordinator or designee.

Other Work Limitations: Extreme heat and humidity should be monitored daily and work schedules should be adjusted appropriately so as not to pose a threat to workers.

Buddy System: Field work will be conducted in pairs of team members according to the buddy system.

Line of Sight: Each field team member shall remain in the line of sight and within verbal communication of at least one other team member.

Eating, Drinking, and Smoking: Eating, drinking, smoking, and the use of tobacco products shall be prohibited in the exclusion and contamination reduction areas, at a minimum, and shall only be permitted in designated areas.

Contamination Avoidance: Field personnel shall avoid unnecessary contamination of personnel, equipment, and materials to the extent practicable.

Sample Handling: Protective gloves of a type designated in Section 7 will be worn when containerized samples are handled for labeling, packaging, transportation, and other purposes.

Vermiculite Handling: Respiratory protection (i.e., high-efficiency particulate air filtration) is recommended when vermiculite is used to package samples into shipping containers (some vermiculite contains low concentrations of asbestos).

Other Safe Work Practices: Be aware of slip, trip, fall hazards, field vermin, poisonous flora.

6. HAZARD EVALUATION AND CONTROL

6.1 PHYSICAL HAZARD EVALUATION AND CONTROL

Potential physical hazards and their applicable control measures are described in the following table for each task.

Hazard	Task Number	Hazard Control Measures
Biological (flora, fauna, etc.)	2,3,4,5 (Farm)	• Potential hazard: _____ • Establish site-specific procedures for working around identified hazards. • Other: _____
Cold Stress	N/A	• Provide warm break area and adequate breaks. • Provide warm noncaffeinated beverages. • Promote cold stress awareness. • See *Cold Stress Prevention and Treatment* (attached at the end of this plan if cold stress is a potential hazard).
Compressed Gas Cylinders	2,3,4,5 (Cylinder)	• Use caution when moving or storing cylinders. • A cylinder is a projectile hazard if it is damaged or its neck is broken. • Store cylinders upright and secure them by chains or other means. • Other: _____
Confined Space	2,3,4,5 (Culvert)	• Ensure compliance with 29 CFR 1910.146. • See SOP for Confined Space Entry. Additional documentation is required. • Other:

Hazard	Task Number	Hazard Control Measures
Drilling	N/A	• See SOP for Health and Safety on Drilling Rig Operations. Additional documentation may be required. • Other: _____ • Other: _____
Drums and Containers	2,3,4,5	• Ensure compliance with 29 CFR 1910.120(j). • Consider unlabeled drums or containers to contain hazardous substances and handle accordingly until the contents are identified. • Inspect drums or containers and assure integrity prior to handling. • Move drums or containers only as necessary; use caution and warn nearby personnel of potential hazards. • Open, sample, and/or move drums or containers in accordance with established procedures; use approved drum/container-handling equipment. • Other: _____

Hazard	Task Number	Hazard Control Measures
Electrical	2,3,4	• Ensure compliance with 29 CFR 1910 Subparts J and S. • Locate and mark energized lines. • De-energize lines as necessary. • Ground all electrical circuits. • Guard or isolate temporary wiring to prevent accidental contact. • Evaluate potential areas of high moisture or standing water and define special electrical needs. • Other: _____
Excavation and Trenching	N/A	• Ensure that excavations comply with and personnel are informed of the requirements of 29 CFR 1926 Subpart P. • Ensure that any required sloping or shoring systems are approved as per 29 CFR 1926 Subpart P. • Identify special personal protective equipment (PPE) (see Section 7) and monitoring (see Section 8) needs if personnel are required to enter approved excavated areas or trenches. • Maintain line of sight between equipment operators and personnel in excavations/trenches. Such personnel are prohibited from working in close proximity to operating machinery. • Suspend or shut down operations at signs of cave in, excessive water, defective shoring, changing weather, or unacceptable monitoring results. • Other: _____ • Other: _____
Fire and Explosion	2,3,4	• Inform personnel of the location(s) of potential fire/explosion hazards. • Establish site-specific procedures for working around flammables. • Ensure that appropriate fire suppression equipment and systems are available and in good working order. • Define requirements for intrinsically safe equipment. • Identify special monitoring needs (see Section 8). • Remove ignition sources from flammable atmospheres. • Coordinate with local fire-fighting groups regarding potential fire/explosion situations. • Establish contingency plans and review daily with team members. • Other: _____
Heat Stress	2,3,4	• Provide cool break area and adequate breaks. • Provide cool noncaffeinated beverages. • Promote heat stress awareness. • Use active cooling devices (e.g., cooling vests) where specified. • See *Heat Stress Prevention and Treatment* (attached at the end of this plan if heat stress is a potential hazard).
Heavy Equipment Operation	N/A	• Define equipment routes, traffic patterns, and site-specific safety measures. • Ensure that operators are properly trained and equipment has been properly inspected and maintained. Verify back-up alarms. • Ensure that ground spotters are assigned and informed of proper hand signals and communication protocols. • Identify special PPE (Section 7) and monitoring (Section 8) needs.

Hazard	Task Number	Hazard Control Measures
		• Ensure that field personnel do not work in close proximity to operating equipment. • Ensure that lifting capacities, load limits, etc., are not exceeded. • Other: _____
Heights (Scaffolding, Ladders, etc.)	2,3,4	• Ensure compliance with applicable subparts of 29 CFR 1910. • Identify special PPE needs (e.g., lanyards, safety nets, etc.) • Other: _____
Noise	2,3,4	• Establish noise level standards for on-site equipment/operations. • Inform personnel of hearing protection requirements (Section 7). • Define site-specific requirements for noise monitoring (Section 8). • Other: _____
Overhead Obstructions	2,3,4	• Wear hard hat. • Other: _____
Power Tools	2,3,4	• Ensure compliance with 29 CFR 1910 Subpart P. • Other: _____
Sunburn	2,3,4	• Apply sunscreen. • Wear hats/caps and long sleeves. • Other: _____
Utility Lines	2,3,4	• Identify/locate existing utilities prior to work. • Ensure that overhead utility lines are at least 25 feet away from project activities. • Contact utilities to confirm locations, as necessary. • Other: _____
Weather Extremes	2,3,4	• Potential hazards: Extreme heat and humidity • Establish site-specific contingencies for severe weather situations. • Provide for frequent weather broadcasts. • Weatherize safety gear, as necessary (e.g., ensure eye wash units cannot freeze, etc.). • Identify special PPE (Section 7) needs. • Discontinue work during severe weather. • Other: _____
Other:		• _____ • _____
Other:		• _____ • _____

6.2 CHEMICAL HAZARD EVALUATION AND CONTROL

6.2.1 Chemical Hazard Evaluation

Potential chemical hazards are described by task number in Table 6-1. Hazard Evaluation Sheets for major known contaminants are attached at the end of this plan.

Table 6-1

CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)
2,3,4	Chlorophenol, 2-	---	---	---	Y	Inh, Ing, Eye, Skin	Irritant	0.019 mg/m3 Sharp	--- ---	9.28
2,3,4	Chromic acid*	0.1 mg/m3	---	25 mg/m3 CR	Y	Inh, Ing, Eye, Skin	Corrosive to skin; Severe Irr.: nose, throat, resp. tract; vomiting.	--- Odorless	--- ---	---
2,3,4	Chromium (hexavalent)*	0.1 mg/m3 C	0.001 mg/m3	0.05 mg/m3	Y	Inh, Ing, Eye, Skin	Skin rash; Irr.: eye/skin/mucous membranes.	--- Odorless	--- ---	---
2,3,4	Chromium (metal)	1.0 mg/m3	0.5 mg/m3	0.5 mg/m3	N	Inh, Ing, Eye, Skin	No acute symptoms reported	--- Odorless	--- ---	---
2,3,4	Chromium III	0.5 mg/m3	0.5 mg/m3	0.5 mg/m3	N	Inh, Ing, Eye, Skin	No acute symptoms reported	--- Odorless	--- ---	---
2,3,4	Ferrocyanides	---	---	---	Y	Inh, Eye, Skin	HA, DIZZ, LOC, Cessation of breathing, Inh.or ing. may be fatal	--- ---	--- ---	---
2,3,4	Iron metal	---	---	---	N	Inh	Benign pneumoconiosis	--- Odorless	--- ---	---
2,3,4	Pentachlorophenol*	0.5 mg/m3 Sk	0.5 mg/m3 Sk	0.5 mg/m3 Sk	Y	Inh, Ing, Eye, Skin	Irritation of upper respiratory tract, vomiting, chest pain	0.03 ppm Pungent	--- ---	---
2,3,4	Petroleum fractions, heavy	---	---	---	Y	Inh, Ing, Eye, Skin		--- Tar-like	--- ---	---
2,3,4	Polychlorinated biphenyl 1242*	1 mg/m3 Sk	0.001 mg/m3 Sk	1 mg/m3 Sk	Y	Inh, Ing, Eye, Skin	Irritation of eyes, chloracne, liver damage	--- Butter-like	--- ---	---
2,3,4	Polychlorinated biphenyl 1254*	0.5 mg/m3 Sk	0.001 mg/m3 Sk	0.5 mg/m3 Sk	Y	Inh, Ing, Eye, Skin	Irritation of eyes, chloracne, liver damage	--- Butter-like	--- ---	---
2,3,4	Trichlorophenol, 2,4,5 -*	---	---	---	Y	Inh, Ing, Eye, Skin		--- Phenol - like	--- ---	---

Key at end of Table.

Table 6-1
CHEMICAL HAZARD EVALUATION

Task Number	Compound	Exposure Limits (TWA)			Dermal Hazard (Y/N)	Route(s) of Exposure	Acute Symptoms	Odor Threshold/ Description	FID/PID	
		PEL	REL	TLV					Relative Response	Ioniz. Poten. (eV)

KEY:

* = Chemical is a known or suspected carcinogen.
— = Information not available

PEL	= Permissible Exposure Limit	E/N/I	= Eyes/Nose/Throat	ING	= Ingestion	PWP	= Poor Warning Properties
REL	= Recommended Exposure Limit	FA	= Fatigue	IRR	= Irritation	URT	= Upper Respiratory Tract
TLV	= Threshold Limit Value	F/CC	= fibers per cubic centimeter	LFC	= Lowest Feasible Concentration	V	= Vomiting
C	= Ceiling Limit	GD	= Giddiness	LOC	= Loss of Consciousness	WK	= Weakness
CGH	= Cough	GI	= Gastrointestinal Tract	MG/M3	= Milligrams per cubic meter	SK	= Skin Notation
CNS	= Central Nervous System Effects	HA	= Headaches	NAU	= Nausea	SP	= Slow Pulse
DIZZ	= Dizziness	INH	= Inhalation	PPM	= Parts per million	STEL	= Short Term Exposure Limit

6.2.2 Chemical Hazard Control

An appropriate combination of engineering/administrative controls, work practices, and PPE shall be used to reduce and maintain employee exposures to a level at or below published exposure levels (see Section 6.2.1).

Applicable Engineering/Administrative Control Measures: Instrument monitoring of site area with PID/HNU, radiation meter, CGI/Oxygen meter.

PPE: See Section 7.

6.3 RADIOLOGICAL HAZARD EVALUATION AND CONTROL

6.3.1 Radiological Hazard Evaluation

Potential radiological hazards are described below by task number. Hazard Evaluation Sheets for major known contaminants are attached at the end of this plan.

Task Number	Radionuclide	DAC (µCi/ml)	Route(s) of Exposure	Major Radiation(s)	Energy(s) (MeV)	Half-Life
N/A						

6.3.2 Radiological Hazard Control

Engineering/administrative controls and work practices shall be instituted to reduce and maintain employee exposures to a level at or below the permissible exposure/dose limits (see sections 4.2.3 and 6.3.1). Whenever engineering/administrative controls and work practices are not feasible or effective, any reasonable combination of engineering/administrative controls, work practices, and PPE shall be used to reduce and maintain employee exposures to a level at or below permissible exposure/dose limits.

Applicable Engineering/Administrative Control Measures: N/A

PPE: See Section 7.

7. LEVEL OF PROTECTION AND PERSONAL PROTECTIVE EQUIPMENT

7.1 LEVEL OF PROTECTION

The following levels of protection (LOPs) have been selected for each work task based on an evaluation of the potential or known hazards, the routes of potential hazard, and the performance specifications of the PPE. On-site monitoring results and other information obtained from on-site activities will be used to modify these LOPs and the PPE, as necessary, to ensure sufficient personnel protection. The authorized LOP and PPE shall only be changed with the approval of the regional safety coordinator or designee. Level A is not included below because Level A activities, which are performed infrequently, will require special planning and addenda to this SHASP.

Task Number	B	C	D	Modifications Allowed
1			x	
2		x	(x)	
3		x	(x)	
4		x	(x)	
5		X	(x)	

Note: Use "X" for initial levels of protection. Use "(X)" to indicate levels of protection that may be used as site conditions warrant.

7.2 PERSONAL PROTECTIVE EQUIPMENT

The PPE selected for each task is indicated below. E & E's PPE program complies with 29 CFR 1910.120 and 29 CFR 1910 Subpart I and is described in detail in the CHSP. Refer to 29 CFR 1910 for the minimum PPE required for each LOP.

PPE	Task Number/LOP					
	1	2	3	4	5	
Full-face APR			x	x	X	
PAPR						
Cartridges:						
H						
GMC-H						
GMA-H						
Other:GME-P100			x	x	X	
Positive-pressure, full-face SCBA						
Spare air tanks (Grade D air)						
Positive-pressure, full-face, supplied-air system						
Cascade system (Grade D air)						
Manifold system						
5-Minute escape mask						
Safety glasses		x				
Monogoggles						
Coveralls/clothing			x	x	X	

PPE	Task Number/LOP					
	1	2	3	4	5	
Protective clothing:						
Tyvek						
Saranex						
Other: polytyvek			x	x	X	
Splash apron						
Inner gloves:						
Cotton						
Nitrile			x	x	X	
Latex						
Other:						
Outer gloves:						
Viton						
Rubber						
Neoprene						
Nitrile			x	x	X	
Other:						
Work gloves						
Safety boots (as per ANSI Z41)		x	x	x	X	
Neoprene safety boots (as per ANSI Z41)						
Boot covers (type: Latex disposable)		x	x	x	X	
Hearing protection (type: _____)						
Hard hat		x	x	x	X	
Face shield						
Other:						
Other:						

8. HEALTH AND SAFETY MONITORING

Health and safety monitoring will be conducted to ensure proper selection of engineering/administrative controls, work practices, and/or PPE so that employees are not exposed to hazardous substances at levels that exceed permissible exposure/dose limits or published exposure levels. Health and safety monitoring will be conducted using the instruments, frequency, and action levels described in Table 8-1. Health and safety monitoring instruments shall have been appropriately calibrated and/or performance-checked prior to use.

Table 8-1

HEALTH AND SAFETY MONITORING

Instrument	Task Number	Contaminant(s)	Monitoring Location	Monitoring Frequency	Action Levels[a]	
X PID (e.g., HNu IS-101) ☐ FID (e.g., OVA 128-GC)	2,3,4,5 (Drums)	Unknown	All Areas	Initial Walkthrough, Initial Entry into PCB transformer area, as needed	**Unknown Vapors** Background to 1 ppm: Level D 1 to 5 ppm above background: Level C 5 to 500 ppm above background: Level B >500 ppm above background: Level A	**Contaminant-Specific**
Oxygen Meter/Explosimeter	2,3,4,5 (Grout)	Unknown	All areas	Initial Walkthrough, Initial Entry into PCB transformer area, as needed	**Oxygen** <19.5% or >22.0%: Evacuate area; eliminate ignition sources; reassess conditions. 19.5 to 22.0%: Continue work in accordance with action levels for other instruments.	**Explosivity** ≤10% LEL: Continue work in accordance with action levels for other instruments; monitor continuously for combustible atmospheres. >10% LEL: Evacuate area; eliminate ignition sources; reassess conditions.
Radiation Alert Monitor (Rad-mini or RAM-4)					<0.1 mR/hr: Continue work in accordance with action levels for other instruments. ≥0.1 mR/hr: Evacuate area; reassess work plan and contact radiation safety specialist.	
Mini-Ram Particulate Monitor					**General/Unknown** Evaluate health and safety measures when dust levels exceed 2.5 milligrams per cubic meter.	**Contaminant-Specific**
HCN/H_2S (Monitox)					≥4 ppm: Leave area and consult with SSO.	
Draeger Colorimetric Tubes					**Tube** **Action Level** **Action**	
Air Monitor/Sampler Type:_____ Sampling medium: _____					**Action Level**	**Action**

Table 8-1

HEALTH AND SAFETY MONITORING

Instrument	Task Number	Contaminant(s)	Monitoring Location	Monitoring Frequency	Action Levels[a]
Personal Sampling Pump Type:_____ Sampling medium: _____					**Action Level** **Action**
Micro R Meter					<2 mR/hr: Continue work in accordance with action levels for other instruments. 2 to 5 mR/hr: In conjunction with a radiation safety specialist, continue work and perform stay-time calculations to ensure compliance with dose limits and ALARA policy. >5 mR/hr: Evacuate area to reassess work plan and evaluate options to maintain personnel exposures ALARA and within dose limits.
Ion Chamber					See micro R meter action levels above.
Radiation Survey Ratemeter/Scaler with External Detector(s)	2,3,4,5	Radiation	all areas	initial walkthrough & as needed	**Detector** **Action Level** **Action** Victoreen ≥ 0.1 mR/hr evacuate
Noise Dosimeter (Sound Level Meter)					≤85 decibels as measured using the A-weighed network (dBa): Use hearing protection if exposure will be sustained throughout work shift. >85 dBA: Use hearing protection. >120 dBA: Leave area and consult with safety personnel.
Other:					
Other:					

[a] Unless stated otherwise, airborne contaminant concentrations are measured as a time-weighted average in the worker's breathing zone. Acceptable concentrations for known airborne contaminants will be determined based on OSHA/NIOSH/ACGIH and/or NRC exposure limits. As a guideline, 1/2 the PEL/REL/TLV, whichever is lower should be used.

9. DECONTAMINATION PROCEDURES

All equipment, materials, and personnel will be evaluated for contamination upon leaving the exclusion area. Equipment and materials will be decontaminated and/or disposed and personnel will be decontaminated, as necessary. Decontamination will be performed in the contamination reduction area or any designated area such that the exposure of uncontaminated employees, equipment, and materials will be minimized. Specific procedures are described below.

Equipment/Material Decontamination Procedures (specified by work plan): Dry decon. If grossly contaminated, a damp cloth with alconox solution will be used to remove contaminants.

Ventilation: All decontamination procedures will be conducted in a well-ventilated area.

Personnel Decontamination Procedures: Dry decon. Remove PPE as soon as contamination is suspected.

PPE Requirements for Personnel Performing Decontamination: Same level of PPE should be worn. Unless a decon line is established: the first level should be same PPE level, with appropriate downgrading at consecutive stations accordingly.

Personnel Decontamination in General: Following appropriate decontamination procedures, all field personnel will wash their hands and face with soap and potable water. Personnel should shower at the end of each work shift.

Disposition of Disposable PPE: Disposable PPE must be rendered unusable and disposed as indicated in the work plan.

Disposition of Decontamination Wastes (e.g., dry wastes, decontamination fluids, etc.): Site acitivity generated wastes should be left on site for future disposal at a location specified by the OSC.

10. EMERGENCY RESPONSE

This section contains additional information pertaining to on-site emergency response and does not duplicate pertinent emergency response information contained in earlier sections of this plan (e.g., site layout, monitoring equipment, etc.). Emergency response procedures will be rehearsed regularly, as applicable, during project activities.

10.1 EMERGENCY RESPONSIBILITIES

All Personnel: All personnel shall be alert to the possibility of an on-site emergency; report potential or actual emergency situations to the team leader and SSO; and notify appropriate emergency resources, as necessary.

Team Leader: The team leader will determine the emergency actions to be performed by E & E personnel and will direct these actions. The team leader also will ensure that applicable incidents are reported to appropriate E & E and client project personnel and government agencies.

SSO: The SSO will recommend health/safety and protective measures appropriate to the emergency.

Other: _____

_____

10.2 LOCAL AND SITE RESOURCES (including phone numbers)

Ambulance: 911 or 740-283-2222

Hospital: Trinity West Hospital 740-264-8011 Emerg. Services, 740-264-8000 Main Number

Directions to Hospital (map attached at the end of this plan): Get back onto Route 7 North, follow Route 7 North to Route 43 west. Turn left onto Route 43 West. Follow Route 43 West to Garfield Avenue. Turn left onto Garfield Avenue. Less than 500 feet onto Gafield Avenue, veer left onto Johnson Drive. Trinity West is located at the end of Johnson Drive.

_____

Poison Control: 614-228-1323 or 800-682-7625

Police Department: 740-266-4252 (Mingo Junction) 740-282-5353 (Steubenville)

Fire Department: 740-266-4252 (Mingo Junction) 740-282-3636 (Steubenville)

Client Contact: OSC Auker Cell: 216-375-0472, Pager: 800-207-7445 or 800-617-1625, Office 1440-835-5200 or 216-522-7260

Site Contact: _____

On-Site Telephone Number: N/A

START Cellular Telephone Number: 440-823-6589 or 440-773-0925

Radios Available: _____

Other: _____

10.3 E & E EMERGENCY CONTACTS

E & E Emergency Response Center (24 Hours):	716/684-8940
Corporate Health and Safety Director, Dr. Paul Jonmaire:	716/684-8060 (office) 716/655-1260 (home)
Corporate Safety Officer, Tom Siener	716/684-8060 (office) 716/662-4740 (home)
Regional Safety Coordinator, Dean Tiebout:	312/578-9243 (office) 773/468-1670 (home) 312/370-2530 (pager)

Regional Officer Manager, Jerome Oskvarek: 312/578-9243 (office)
773/775-7040 (home)

10.4 OTHER EMERGENCY RESPONSE PROCEDURES

On-Site Evacuation Signal/Alarm (must be audible and perceptible above ambient noise and light levels): Three blasts on a car horn or air horn

On-Site Assembly Area: At main gate entrance

Emergency Egress Route to Get Off Site: TBD

Off-Site Assembly Area: TBD

Preferred Means of Reporting Emergencies:

Site Security and Control: In an emergency situation, personnel will attempt to secure the affected area and control site access.

Emergency Decontamination Procedures: If decontamination does not interfere with essential treatment, wash affected area with soap and water and rinse with copious amounts of water. If decontamination can not be performed,, wrap the affected person in blankets or plastic to reduce contamination of other personnel. Alert medical personnel to potential contamination and decon procedures, if necessary.

PPE: Personnel will don appropriate PPE when responding to an emergency situation. The SSO and Section 7 of this plan will provide guidance regarding appropriate PPE.

Emergency Equipment: Appropriate emergency equipment is listed in Attachment 1. Adequate supplies of this equipment shall be maintained in the support area or other approved work location.

Incident Reporting Procedures: Injuries/exposures should be reported to the Regional Safety Coordinator or the person's direct supervisor The affected person (or RSC or supervisor if person is not able) must complete a form IR, which is to be submitted to the Personnel Dept.
and to the Health and Safety Department in Buffalo as soon as possible. The injury/exposure should also be reported by telephone to Personnel.

ATTACHMENT 1
EQUIPMENT/SUPPLIES CHECKLIST

INSTRUMENTATION	No.	EMERGENCY EQUIPMENT	No.
OVA		First aid kit	1
Thermal desorber		Stretcher	
O_2/explosimeter w/cal. kit	1	Portable eye wash	
Photovac tip	1	Blood pressure monitor	
HNu (probe: 10.2/11.7 eV)	1	Fire blanket	
Magnetometer		Fire extinguisher	
Pipe locator		Thermometer (medical)	
Weather station		Spill kit	
Draeger tube kit (tubes: _____)			
Brunton compass			
Real-time cyanide monitor			
Real-time H_2S monitor			
Heat stress monitor			
Noise equipment		**DECONTAMINATION EQUIPMENT**	
Personal sampling pumps and supplies		Wash tubs	1
MiniRam dust monitor		Buckets	1
Mercury monitor		Scrub brushes	1
Spare batteries (type: _____)		Pressurized sprayer	
		Spray bottle	
		Detergent (type: Alconox)	1
RADIATION EQUIPMENT/SUPPLIES		Solvent (type: _____)	
Documentation forms		Plastic sheeting	
Portable ratemeter	1	Tarps and poles	
Scaler/ratemeter		Trash bags	2
1" NaI gamma probe		Trash cans	
2" NaI gamma probe		Masking tape	
ZnS alpha probe		Duct tape	2
GM pancake probe		Paper towels	3
Tungsten-shielded GM probe		Face mask	2
Micro R meter		Face mask sanitizer	
Ion chamber		Step ladders	
Alert monitor		Distilled water	
Pocket dosimeter		Deionized water	
Dosimeter charger			
Radiation warning tape			
Radiation decon supplies			
Spare batteries (type: _____)			

ATTACHMENT 1
EQUIPMENT/SUPPLIES CHECKLIST

SAMPLING EQUIPMENT		MISCELLANEOUS (Cont.)	
8-oz. bottles	2 cs	Gatorade or equivalent	
Half-gallon bottles		Tables	
VOA bottles		Chairs	
String		Weather radio	
Hand bailers		Two-way radios	4
Thieving rods with bulbs		Binoculars	
Spoons		Megaphone	
Knives		Cooling vest	
Filter paper			
Bottle labels			
		SHIPPING EQUIPMENT	
		Coolers	2
MISCELLANEOUS		Paint cans with lids, 7 clips each	
Pump		Vermiculite	
Surveyor's tape		Shipping labels	file
100' Fiberglass tape		DOT labels:	"
300' Nylon rope		"Up"	"
Nylon string		"Danger"	"
Surveying flags		"Inside Container Complies ..."	"
Camera	2	Hazard Group	
Film	Y	Strapping tape	2
Bung wrench	Y	Baggies	2 bx
Soil auger	2	Custody seals	4
Pick		Chain-of-custody forms	3
Shovel	2	Federal Express forms	1
Catalytic heater		Clear packing tape	
Propane gas		Permanent markers	2
Banner tape			
Surveying meter stick			
Chaining pins and ring			
Logbooks (____ large, _X_ small)	2		
Required MSDSs	Y		
Intrinsically safe flashlight	2		
Potable water	5		

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Chlorophenol, 2-
CAS NUMBER: 95-57-8 DOT NAME/ID NO:
SYNONYMS: o-CHLOROPHENOL

CHEMICAL AND PHYSICAL PROPERTIES:
CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:
PHYSICAL STATE:
FLAMMABLE LIMITS: FLASH POINT:
VAPOR PRESSURE: FREEZING POINT: BOILING POINT:
ODOR CHARACTERISTIC: Sharp Incompatabilities:

BIOLOGICAL PROPERTIES:
IDLH: NOT LISTED TLV-TWA : --- PEL - TWA: --- ODOR THRESHOLD: 0.019 mg/m3
HUMAN (LCLO): RAT/MOUSE (LC50):
CARCINOGEN: TERATOGEN: AQUATIC:
ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):
Personal protection:

Gloves:
E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:
Monitoring:

HEALTH HAZARDS:
Acute Symptoms: Irritant

Chronic Symptoms: 9.28

FIRST AID:
FIRST AID-INHAL:
FIRST AID-EYE:
FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:
DISPOSAL OF WASTE:

ecology and environment, inc.

Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Chromic acid*

CAS NUMBER: 7738-94-5 DOT NAME/ID NO: UN 1463 Solid/UN 1755 So

SYNONYMS: CHROMIUM TRIOXIDE, CHROMIC ANHYDRIDE

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY: Highly soluble

PHYSICAL STATE: Dark, purplish red, odorless, crystalline solid.

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Odorless Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: TLV-TWA : 25 mg/m3 CR PEL - TWA: 0.1 mg/m3 ODOR THRESHOLD: ---

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: Yes TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection: Wear protective gloves and clothing.Wear dust-proof goggles and face shield.Respiratory Protection.

Gloves: Butyl Rubber-VG; Nitrile Rubber-G; Polyvinyl-Chloride-VG.

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: Corrosive to skin; Severe Irr.: nose, throat, resp. tract; vomiting,loss of vision,skin burns.

Chronic Symptoms: Hole in the "bone" dividing the inner nose. Irritation, discharge, bleeding and/or formation of a crust in the inner nose may occur.

FIRST AID:

FIRST AID-INHAL: Remove the person from exposure.Begin rescue breathing if breathing has stopped and CPR if heart action has stopped.Transfer promptly to a medical facility.

FIRST AID-EYE: Immediately flush with large amounts of water. Continue without stopping for at least 30 minutes, occasionally lifting

FIRST AID-SKIN: Quickly remove contaminated clothing. Immediately wash contaminated skin with large amounts of water. Carefully scrub any areas which may have cuts or sores to prevent later ulcers.

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Chromium III

CAS NUMBER: 744-47-3 DOT NAME/ID NO:

SYNONYMS: Chromium metals and insoluable salts

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: CR MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Odorless Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: 500 mg/m3 TLV-TWA : 0.5 mg/m3 PEL - TWA: 0.5 mg/m3 ODOR THRESHOLD: ---

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection: Skin: Prevent skin contact; Eyes: Prevent eye contact; Wash skin: When contam.; Remove: When wet or contam.

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: No acute symptoms reported

Chronic Symptoms: ---

FIRST AID:

FIRST AID-INHAL: Resp. support

FIRST AID-EYE: Irr immed

FIRST AID-SKIN: Soap flush immed

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

ecology and environment, inc.

Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Chromium (hexavalent)*

CAS NUMBER: 7440-47-3 DOT NAME/ID NO:

SYNONYMS: CHROMIC OXIDE, SOLUBLE CHROMIC SALTS

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Odorless Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: 250 MG/M3 TLV-TWA : 0.05 mg/m3 PEL - TWA: 0.1 mg/m3 C ODOR THRESHOLD: —

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: Skin rash; Irr.: eye/skin/mucous membranes.

Chronic Symptoms: —

FIRST AID:

FIRST AID-INHAL:

FIRST AID-EYE:

FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Chromium (metal)
CAS NUMBER: 7440-47-2 DOT NAME/ID NO:
SYNONYMS: CHROMIUN METAL

CHEMICAL AND PHYSICAL PROPERTIES:
CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:
PHYSICAL STATE:
FLAMMABLE LIMITS: FLASH POINT:
VAPOR PRESSURE: FREEZING POINT: BOILING POINT:
ODOR CHARACTERISTIC: Odorless Incompatabilities:

BIOLOGICAL PROPERTIES:
IDLH: 500 MG/M3 TLV-TWA : 0.5 mg/m3 PEL - TWA: 1.0 mg/m3 ODOR THRESHOLD: ---
HUMAN (LCLO): RAT/MOUSE (LC50):
CARCINOGEN: TERATOGEN: AQUATIC:
ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):
Personal protection:

Gloves:
E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:
Monitoring:

HEALTH HAZARDS:
Acute Symptoms: No acute symptoms reported

Chronic Symptoms: ---

FIRST AID:
FIRST AID-INHAL:
FIRST AID-EYE:
FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:
DISPOSAL OF WASTE:

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE:

CHEMICAL NAME: Ferrocyanides
CAS NUMBER: DOT NAME/ID NO:
SYNONYMS:

CHEMICAL AND PHYSICAL PROPERTIES:
CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:
PHYSICAL STATE:
FLAMMABLE LIMITS: FLASH POINT:
VAPOR PRESSURE: FREEZING POINT: BOILING POINT:
ODOR CHARACTERISTIC: --- Incompatabilities:

BIOLOGICAL PROPERTIES:
IDLH: TLV-TWA : --- PEL - TWA: --- ODOR THRESHOLD: ---
HUMAN (LCLO): RAT/MOUSE (LC50):
CARCINOGEN: TERATOGEN: AQUATIC:
ROUTE OF EXPOSURE: Inh, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):
Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:
Monitoring:

HEALTH HAZARDS:
Acute Symptoms:

Chronic Symptoms:

FIRST AID:
FIRST AID-INHAL:
FIRST AID-EYE:
FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:
DISPOSAL OF WASTE:

CHEMICAL NAME: Iron metal
CAS NUMBER: 7439-89-6 DOT NAME/ID NO:
SYNONYMS:

CHEMICAL AND PHYSICAL PROPERTIES:
CHEMICAL FORMULA: FE MOLECULAR WEIGHT: 55.85 SPG/D: 7.86 SOLUBILITY: NEGLIGIBLE (LESS THAN 0.1 %)
PHYSICAL STATE: GRAY CRYSTALLINE POWDER OR CHIPS.
FLAMMABLE LIMITS: UPPER - N/A %; LOWER - N/A % FLASH POINT:
VAPOR PRESSURE: N/A FREEZING POINT: BOILING POINT: 3000 C (5432 F)
ODOR CHARACTERISTIC: Odorless Incompatabilities: ORGANIC ACIDS, STRONG OXIDIZING AGENTS, WATER,MINERAL ACIDS

BIOLOGICAL PROPERTIES:
IDLH: NA TLV-TWA : --- PEL - TWA: --- ODOR THRESHOLD: ---
HUMAN (LCLO): RAT/MOUSE (LC50):
CARCINOGEN: TERATOGEN: AQUATIC:
ROUTE OF EXPOSURE: Inh

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):
Personal protection: RESPIRATORY PROTECTION NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. SELF-CONTAINED BREATHING APPARATUS IS ADVISED. SAFETY GLASSES WITH SIDESHIELDS, PROPER GLOVES ARE RECOMMENDED.

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:
Monitoring:

HEALTH HAZARDS:
Acute Symptoms: Benign pneumoconiosis

Chronic Symptoms: ---

FIRST AID:
FIRST AID-INHAL: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.IF BREATHING IS DIFFICULT, GIVE OXYGEN.
FIRST AID-EYE: IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
FIRST AID-SKIN: IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

DISPOSAL/WASTE TREATMENT:
DISPOSAL OF WASTE:

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Pentachlorophenol*

CAS NUMBER: 87-86-5 DOT NAME/ID NO: NA 2020

SYNONYMS: PCP, DOWICIDE 7, PENCHLOROL

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: CL5C6OH MOLECULAR WEIGHT: 266.34 SPG/D: 1.98 SOLUBILITY: Insoluble

PHYSICAL STATE: Light brown solid or it may be in solution.

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: 0.0002 mm Hg at 68F FREEZING POINT: BOILING POINT: 309 C (588 F)

ODOR CHARACTERISTIC: Pungent Incompatabilities: STRONG OXIDIZING AGENTS

BIOLOGICAL PROPERTIES:

IDLH: TLV-TWA : 0.5 mg/m3 Sk PEL - TWA: 0.5 mg/m3 Sk ODOR THRESHOLD: 0.03 ppm

HUMAN (LCLO): RAT/MOUSE (LC50): LD50 (ORAL-RAT)(MG/KG)-50;

CARCINOGEN: TERATOGEN: Yes AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection: Avoid skin contact with Pentachlorophenol. Wear protective gloves and clothing.Wear splash proof chemical goggles and face shield.Respiratory Protection. SELF-CONTAINED BREATHING APPARATUS IS ADVISED. SAFETY GOGGLES, UNIFORM, APRON, RUBBER GLOVES.

Gloves: Neoprene-VG; Nitrile Rubber-E; Polyvinyl-Chloride-G; Viton-E

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: Irritation of upper respiratory tract, vomiting, chest pain,poisoning that is rapidly fatal,sweating, high fever, trouble breathing, pain in the chest and abdomen,and death,irritation(E/N/T)

Chronic Symptoms: Mutations,may damage the developing fetus

FIRST AID:

FIRST AID-INHAL: Remove the person from exposure. Begin rescue breathing if breathing has stopped and CPR if heart action has stopped.Transfer promptly to a medical facility.

FIRST AID-EYE: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting upper and lower lids. Seek medical attention immediately.

FIRST AID-SKIN: Quickly remove contaminated clothing. Immediately wash area with large amounts of soap and water. Seek medical attention

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

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Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE:

CHEMICAL NAME: Petroleum fractions, heavy

CAS NUMBER: DOT NAME/ID NO:

SYNONYMS:

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Tar-like Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: TLV-TWA : — PEL - TWA: --- ODOR THRESHOLD: —

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms:

Chronic Symptoms:

FIRST AID:

FIRST AID-INHAL:

FIRST AID-EYE:

FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

ecology and environment, inc.

Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Polychlorinated biphenyl 1242*

CAS NUMBER: 53469-21-9 DOT NAME/ID NO:

SYNONYMS: PCB; POLYCHLORINATED BIPHENYL; AROCHLOR 1242; CHLORODIPHENYL; CHLORINAT

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Butter-like Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: 0.950 PPM TLV-TWA : 1 mg/m3 Sk PEL - TWA: 1 mg/m3 Sk ODOR THRESHOLD: —

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: Irritation of eyes, chloracne, liver damage

Chronic Symptoms: ---

FIRST AID:

FIRST AID-INHAL:

FIRST AID-EYE:

FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

ecology and environment, inc.

Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Polychlorinated biphenyl 1254*

CAS NUMBER: 11097-69-1 DOT NAME/ID NO:

SYNONYMS: PCB; POLYCHLORINATED BIPHENYL; AROCHLOR 1254; CHLORODIPHENYL; CHLORINAT

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Butter-like Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: 0.380 PPM TLV-TWA : 0.5 mg/m3 Sk PEL - TWA: 0.5 mg/m3 Sk ODOR THRESHOLD: ---

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms: Irritation of eyes, chloracne, liver damage

Chronic Symptoms: ---

FIRST AID:

FIRST AID-INHAL:

FIRST AID-EYE:

FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:

ecology and environment, inc.

Job No: HAZARD EVALUATION OF CHEMICALS PREPARATION DATE: 4/11/95

CHEMICAL NAME: Trichlorophenol, 2,4,5 -*

CAS NUMBER: 95-95-4 DOT NAME/ID NO:

SYNONYMS:

CHEMICAL AND PHYSICAL PROPERTIES:

CHEMICAL FORMULA: MOLECULAR WEIGHT: SPG/D: SOLUBILITY:

PHYSICAL STATE:

FLAMMABLE LIMITS: FLASH POINT:

VAPOR PRESSURE: FREEZING POINT: BOILING POINT:

ODOR CHARACTERISTIC: Phenol - like Incompatabilities:

BIOLOGICAL PROPERTIES:

IDLH: NOT LISTED TLV-TWA : — PEL - TWA: — ODOR THRESHOLD: ---

HUMAN (LCLO): RAT/MOUSE (LC50):

CARCINOGEN: TERATOGEN: AQUATIC:

ROUTE OF EXPOSURE: Inh, Ing, Eye, Skin

HANDLING RECOMMENDATIONS (PERSONAL PROTECTIVE MEASURES):

Personal protection:

Gloves:

E = Excellent (> 8 hours); VG = Very Good (4 - 8 hrs); G = Good (1 - 4 hours); P = Poor (< 1 hour)

MONITORING RECOMMENDATIONS:

Monitoring:

HEALTH HAZARDS:

Acute Symptoms:

Chronic Symptoms: ---

FIRST AID:

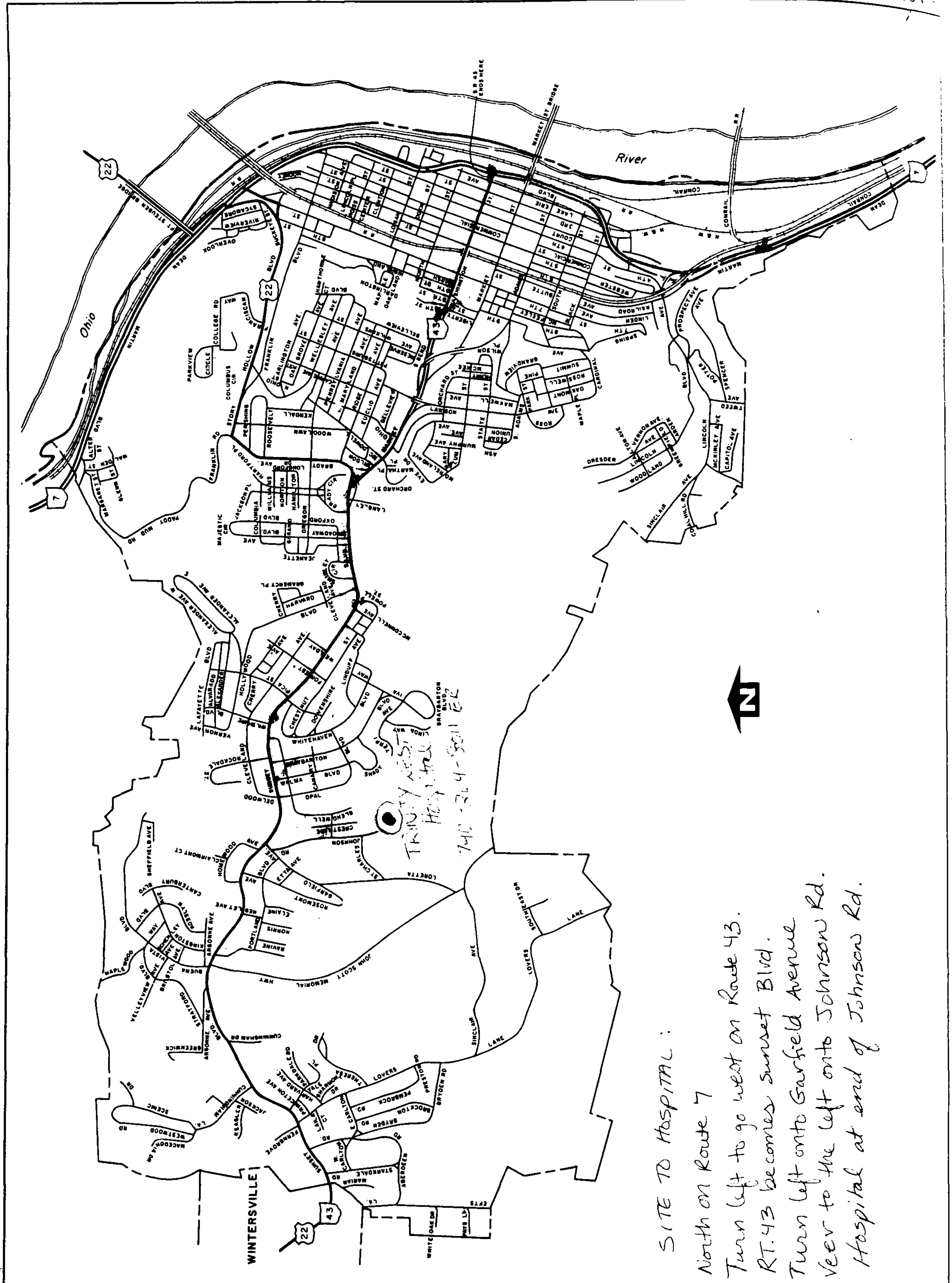
FIRST AID-INHAL:

FIRST AID-EYE:

FIRST AID-SKIN:

DISPOSAL/WASTE TREATMENT:

DISPOSAL OF WASTE:


SITE TO HOSPITAL:
North on Route 7
Turn left to go west on Route 43.
RT. 43 becomes Sunset Blvd.
Turn left onto Garfield Avenue
Veer to the left onto Johnson Rd.
Hospital at end of Johnson Rd.
Ohio
River
WINTERSVILLE
N

CitMap